

ISOLATED PHOTODIODE

ABSTRACT OF THE INVENTION

A sensor formed in a substrate of a first conductivity type in a first concentration to express a first intrinsic potential includes CMOS circuitry to control the sensor, a first well of the first conductivity type in a second concentration (greater than the first concentration) formed in the substrate to express a second intrinsic potential, and a photodiode region of a second conductivity type formed in the first well. The first and second intrinsic potentials induce a field between the substrate and the first well that repels photo generated charge from drifting from the substrate into the first well. Alternatively, a sensor formed in a substrate of a first conductivity type includes CMOS circuitry to control the sensor, a first well of a second conductivity type formed in the substrate, a second well of the first conductivity type formed in the first well, and a photodiode region of the second conductivity type formed in the second well.